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ABSTRACT

This publication is part of a series of monographs on the art of teaching. Each volume, focusing on a specific discipline, explores theory in the context of teaching strategies connected to evaluation of both teachers' and students' learning. Three techniques are offered for use of the guide: dialogues (as self-evaluation and in study groups), shop talk (review of current professional literature), and teacher-to-teacher field notes (tips and experiences from practicing educators). This publication, containing four chapters, explores innovative approaches to teaching mathematics. Chapter 1 examines how mathematics has changed over time, and how it is evolving, including changing structures for classrooms and curriculum, new ways of looking at math, homework hints, and classroom strategies. Chapter 2 looks at mathematics across the curriculum, and explores how to expose students to math throughout the school day in the context of social studies, language arts, art, and science; specific examples are provided. Chapter 3 discusses using manipulations to give students hands-on experience with the abstractions of mathematical principles, using such items as connecting cubes, pattern blocks, color tiles, puzzles, geoboards, and Cuisenaire rods. Chapter 4 focuses on teaching children to work collaboratively. A list of professional associations and publications is included. (Contains 114 references.) (ND)

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